

FIG. 1

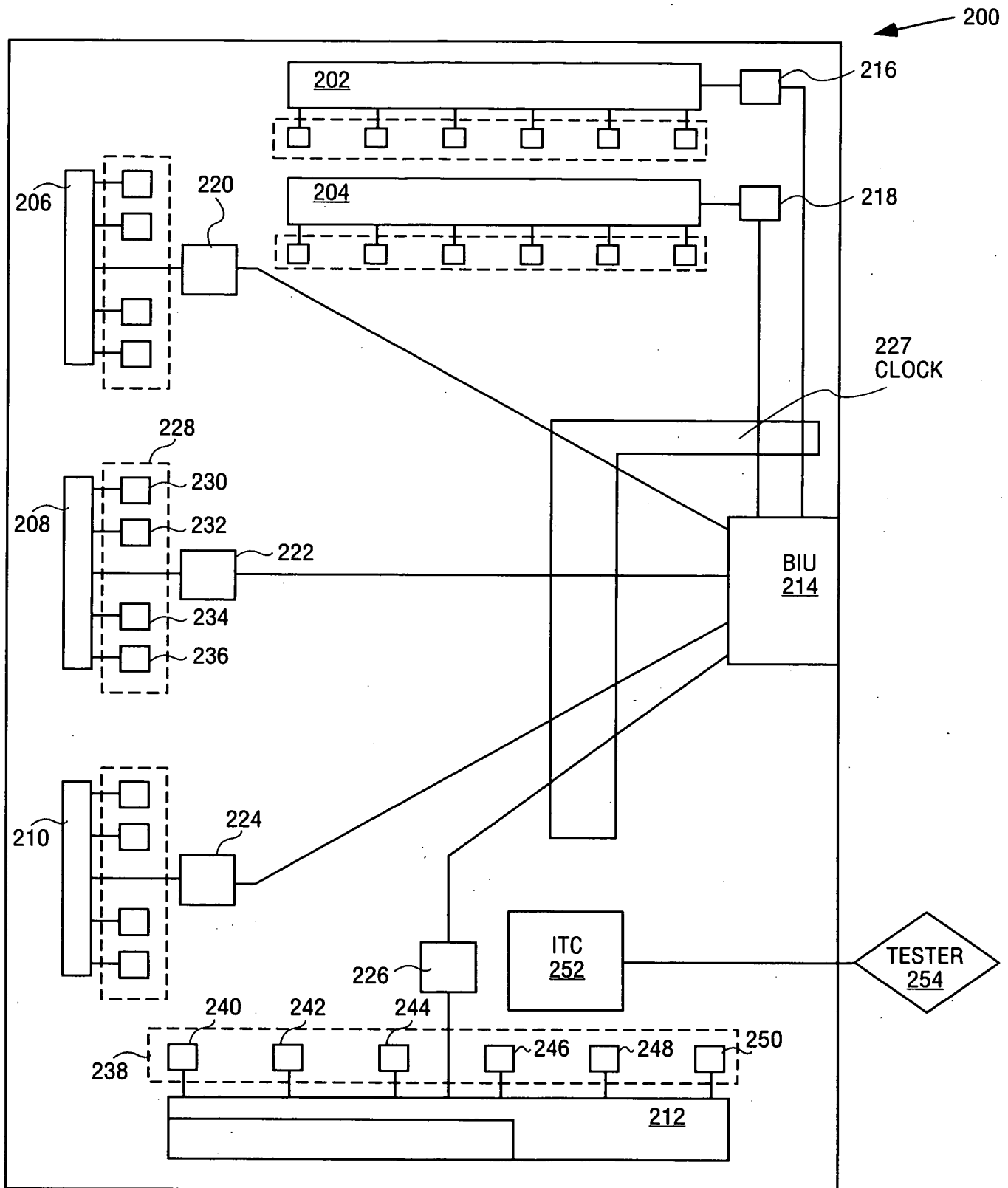


FIG. 2

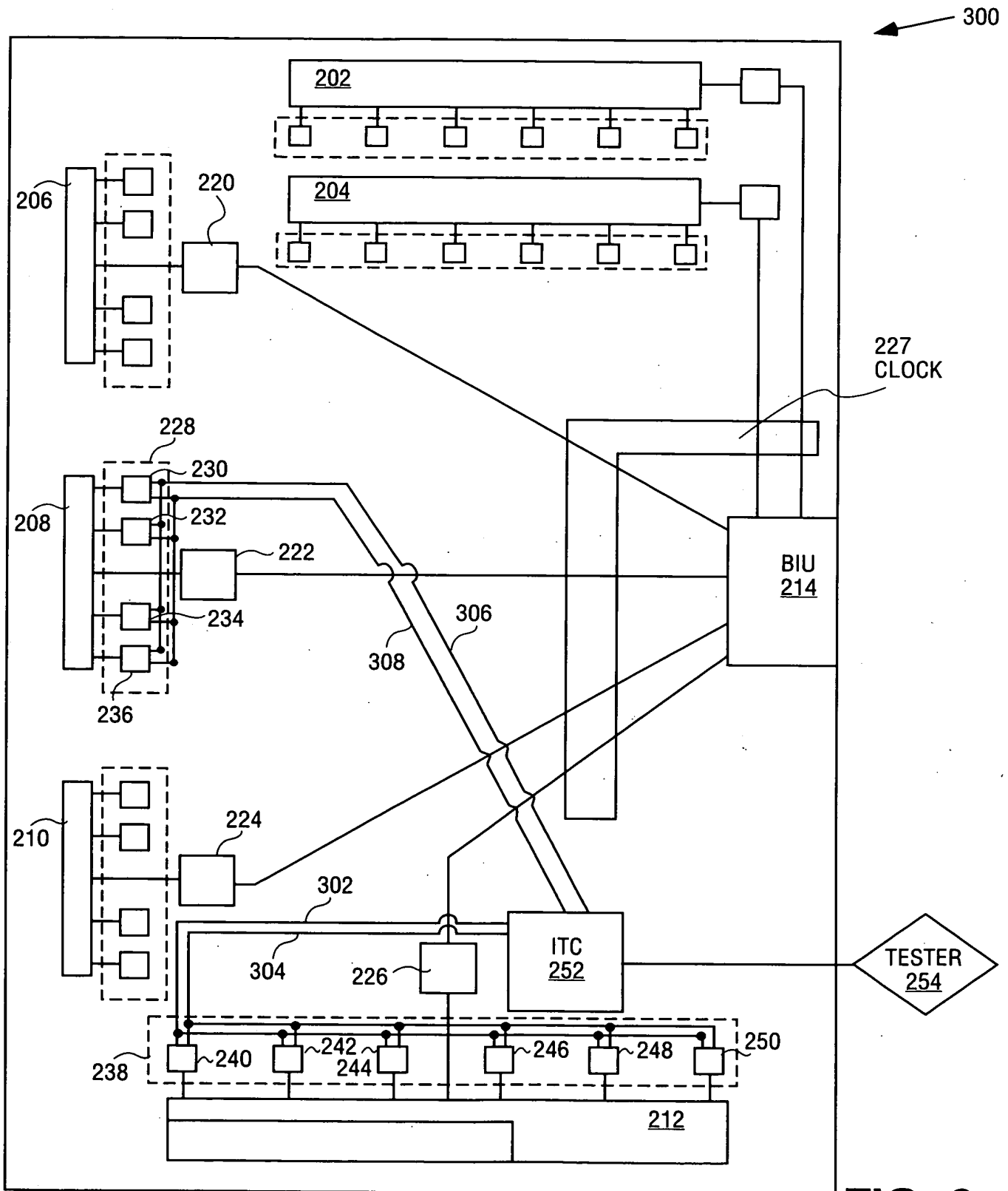


FIG. 3
(PRIOR ART)

The diagram illustrates a scanout control system, divided into a detailed view of a De-Skew Controller (540) and a system-level view (500).

De-Skew Controller (540): This block receives an ITB (530) and outputs scanout signals to an RCD(xy). It contains a DECODE block, a dff (data flip-flop), and four De-Skew Buffers (0, 1, 2, 3). The ITB signal is processed by the DECODE block, which then outputs scanout_load and scanout_shift signals to the De-Skew Buffers. The De-Skew Buffers output scanout_loadxy and scanout_shiftxy signals to the RCD(xy). The dff block outputs scanout_ctl03 to the RCD(xy).

System-level view (500): This view shows two De-Skew Clusters (0 and 1) connected to a central ITC (520) and PLL (510) block. The ITC/PLL block receives a dbgnsnapshot (510) and outputs coreclk, segment_cntl (itcScanOutCntrl111b), and ITB (18 bits) signals. The ITB signal is distributed to the De-Skew Clusters and the RCD(xy) in the detailed view.

FIG. 5

control line/clock	Logic equations / details	Generated from	Driven to
scanout_load (non_critical)	SCANOUTSIG + SCANOUTLOAD + SCANOUTLOADDBG + (ISCAN_BUS + ISCAN_TAP)	De-skew controller	all LBFs
scanout_shift (non_critical)	SCANOUTSIG + SCANOUTSHIFT	De-skew controller	all LBFs
ck (clock driving scanout ff)	scanout_ctl & qclk	LBF	LBF
scanout_ctl	1. (SCANOUTLOADDBG & Run-test/Idle 2. (SCANOUTLOAD & Run-test/Idle & TDI) + 3. (SCANOUTSHIFT & (TCK & gclk)*) + 4. SCANOUTRST + 5. (SCANOUTSIG + Run-test/Idle & dbgnsnapshot 6. (ISCAN_BUS + ISCAN_TAP)	ITC, staged in De-skew cluster	all LBFs

FIG. 6

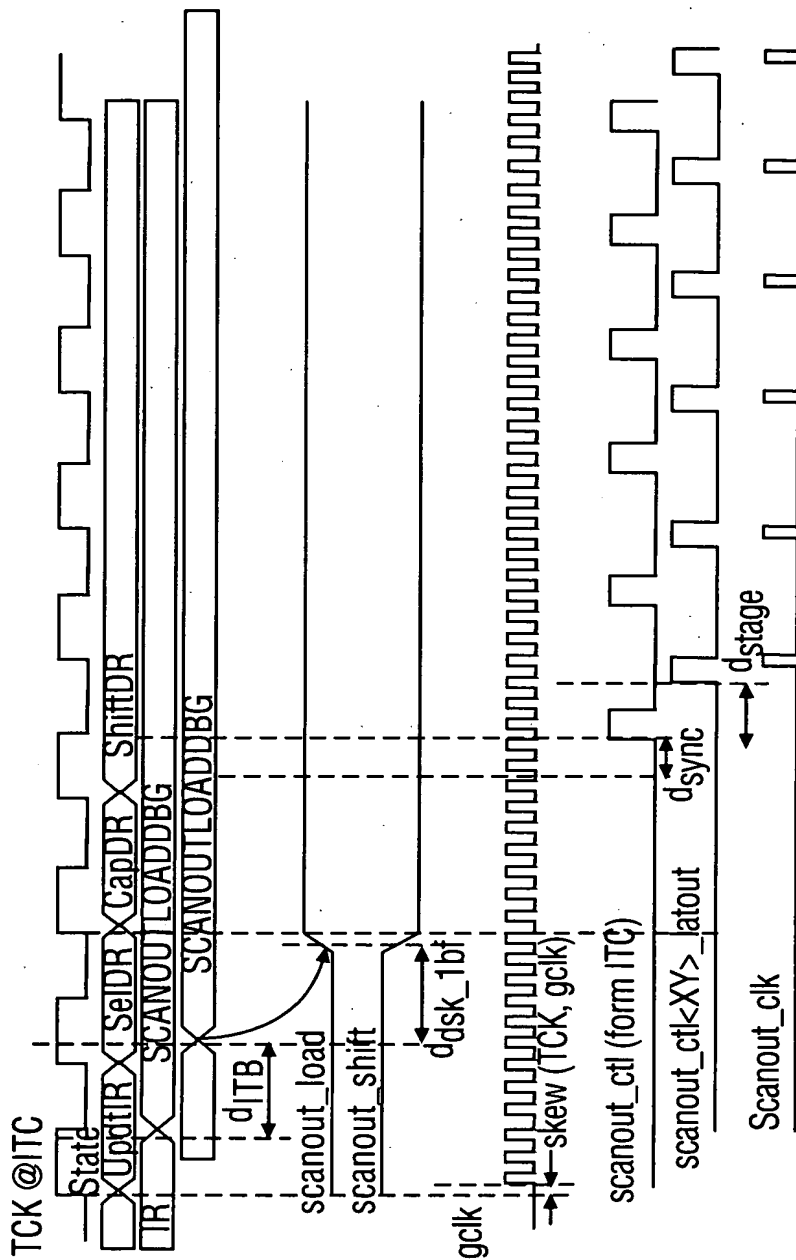


FIG. 7

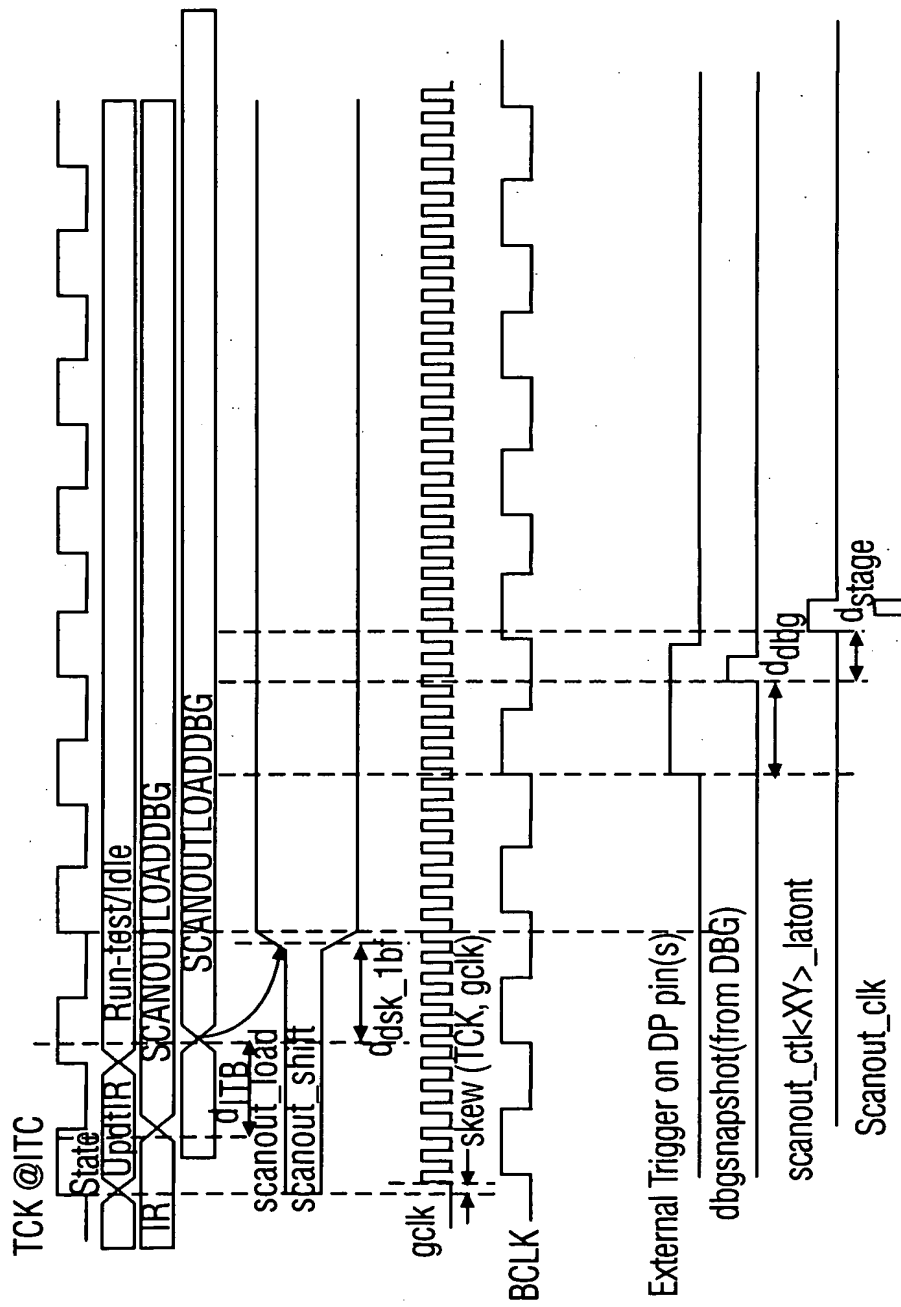


FIG. 8